

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: CHRISTINE LAKE	Lake Area (ha):	68.80
Town: STARK	Maximum depth (m):	17.5
County: Coos	Mean depth (m):	6.9
River Basin: Connecticut	Volume (m ³):	4754000
Latitude: 44°37'56" N	Relative depth:	1.9
Longitude: 71°24'33" W	Shore configuration:	1.53
Elevation (ft): 1202	Areal water load (m/yr):	11.99
Shore length (m): 4500	Flushing rate (yr ⁻¹):	1.70
Watershed area (ha): 1165.5	P retention coeff.:	0.53
% watershed ponded: 0.0	Lake type:	natural

BIOLOGICAL:

		25 January 1994	12 August 1993
DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 45%	RHIZOSOLENIA 55%
	#2	MELOSIRA 40%	CRYPTOMONAS 25%
	#3	(ALL ALGAE SPARSE)	
PHYTOPLANKTON ABUNDANCE (cells/mL)			280
CHLOROPHYLL-A (µg/L)			3.44
DOM. ZOOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	ACTINOPHRYS 22%
	#2		KERATELLA 14%
	#3		GASTROPUS 14%
ROTIFERS/LITER		9	50
MICROCRUSTACEA/LITER		<1	33
ZOOPLANKTON ABUNDANCE (#/L)		9	107
VASCULAR PLANT ABUNDANCE			Scattered
SECCHI DISK TRANSPARENCY (m)			4.9
BOTTOM DISSOLVED OXYGEN (mg/L)		8.9	5.7
BACTERIA (E. coli, #/100 ml)	#1		
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 8.2
Hypolimnion volume (m³): 793000
Anoxic volume (m³): None

CHEMICAL:

Lake: CHRISTINE LAKE

Town: STARK

	25 January 1994		12 August 1993		
DEPTH (m)	4.0	8.0	2.5	7.0	12.0
pH (units)	6.7	6.6	7.0	6.7	6.2
A.N.C. (Alkalinity)	3.8	3.8	2.5	2.8	3.5
NITRATE NITROGEN	0.06	0.07	< 0.02		0.09
TOTAL KJELDAHL NITROGEN	0.20	0.31	0.17	0.11	0.23
TOTAL PHOSPHORUS	0.002	0.002	0.004	0.004	0.005
CONDUCTIVITY (μ mhos/cm)	29.2	28.8	26.4	27.3	27.6
APPARENT COLOR (cpu)	12	14	8	11	15
MAGNESIUM			0.34		
CALCIUM			2.2		
SODIUM			1.5		
POTASSIUM			0.45		
CHLORIDE	< 2	< 2	< 3		< 3
SULFATE	6	6	5		5
TN : TP	130	190	43		64
CALCITE SATURATION INDEX			3.6		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1993

D.O. S.D. PLANT CHL TOTAL CLASS

0	2	1	0	3	Oligo.
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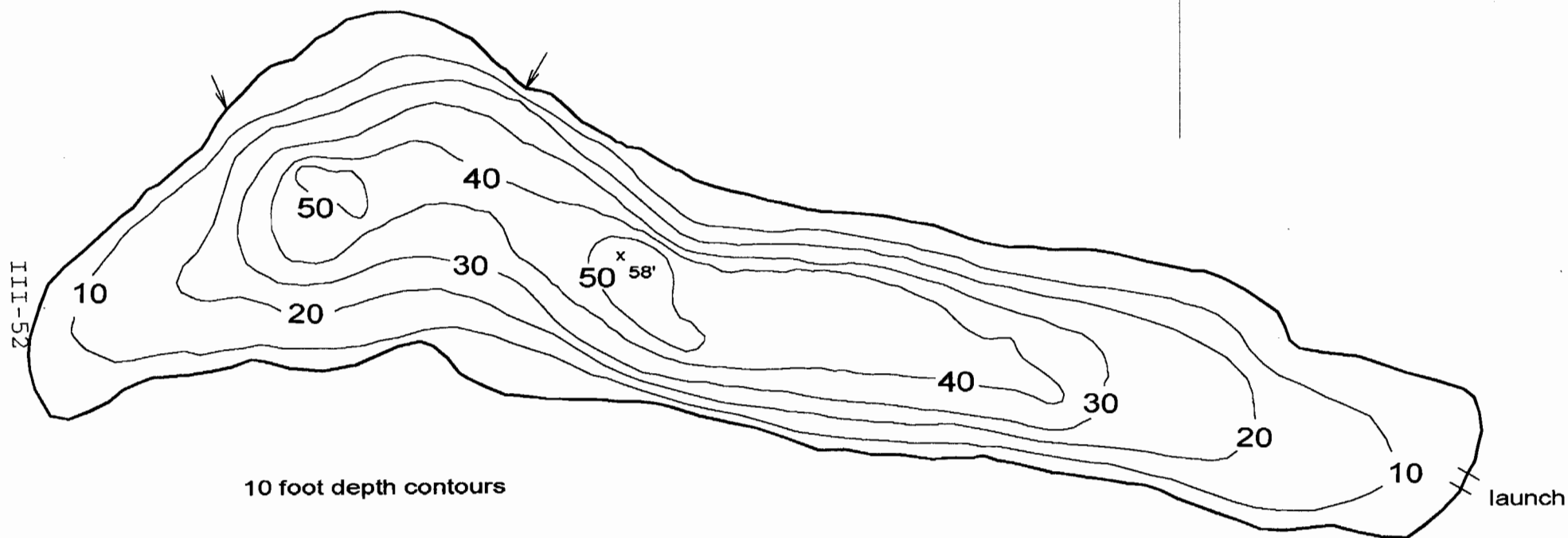
COMMENTS:

- Also known as North Pond.
- There is a 10 horsepower motor limit for all boats on this lake (RSA 270:117)
- Christine Lake was previously surveyed and classified in 1981. There was no change in trophic classification and little change in water quality.
- Nice launch site present next to town beach but needs a sanitary facility.
- The land surrounding the lake is protected by a conservation easement owned primarily by the Percy Summer Club. The land adjoins the Nash Stream reserve, virtually protecting the entire watershed of the lake. The eight cottages are owned by the club.
- Merismopedia (55%) was the dominant wholewater phytoplankton.

Christine Lake

Stark

N



0 0.5
Km

LAKE: CHRISTINE LAKE
DATE: 08/12/93

WEATHER: SUNNY & WARM(80); LIGHT BREEZE

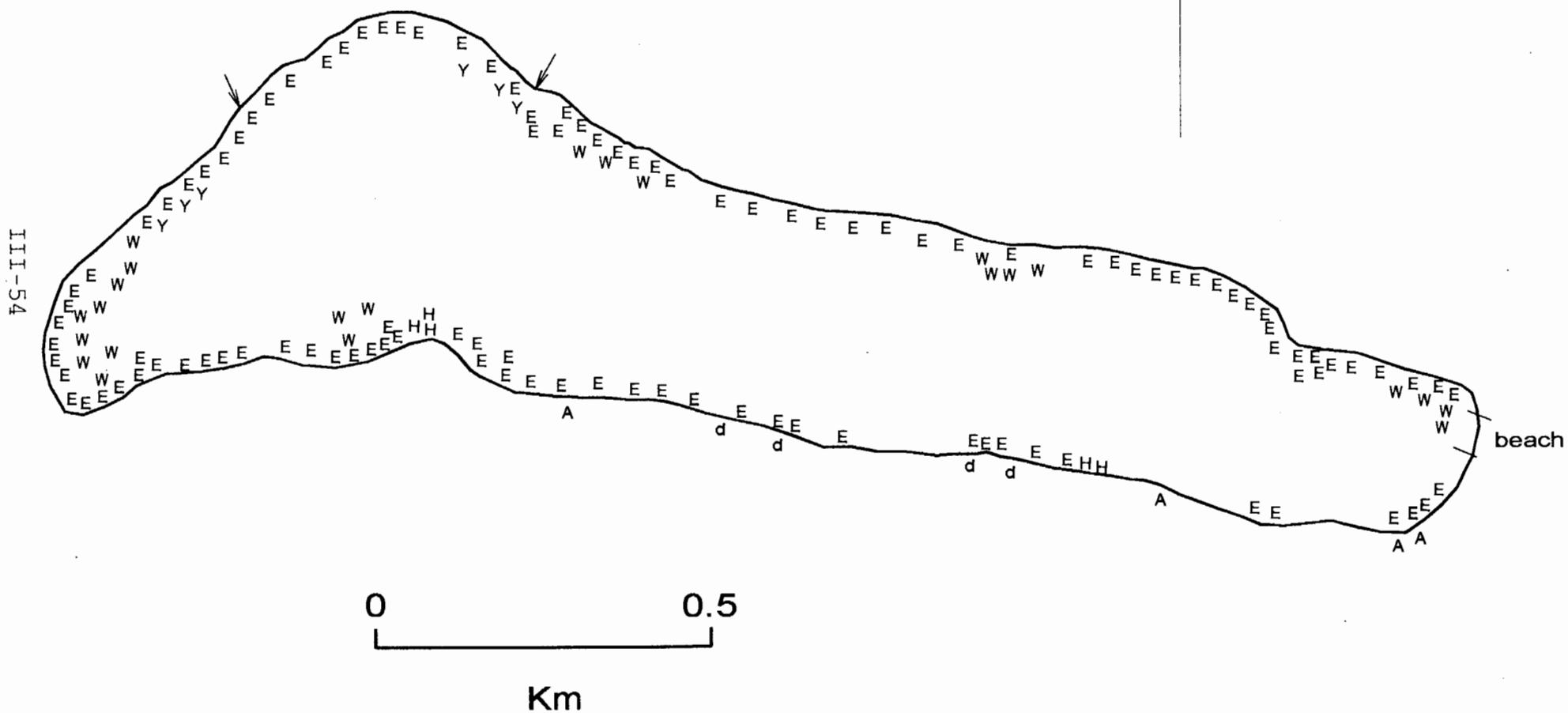
SECCHI DISK (m): 4.9 COMMENTS:
 BOTTOM DEPTH (m): 17.5
 TIME: 1030

III-53

Christine Lake

Stark

N



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